**Traffic Light Project**

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# Introduction

# Time frame of assignment

# Gantt chart

# Scenario

Below is the scenario we chose for the project. Here we have a *(something road idk I don’t have a driving license)*. There are four traffic lights controlling the traffic and four states to allow people to cross all 3 pedestrian crossings, as well as cars to turn from and into every road.

An important thing to keep in mind is all the traffic lights are for the traffic, there are lights for the pedestrians, this is a possible extension that we could do, but more on that later. When the right traffic lights are red to allow pedestrians to cross, the road is green, otherwise it’s red and not safe to cross.

This will not be visualised in the actual program; the program will only have the lights of the actual traffic lights. Again, possible extension for the future. The big arrows on the roads show what way the traffic flows and the small ones show which lane can turn where.

|  |  |
| --- | --- |
| **State 1** | Here we have light A green so the traffic from that direction can go straight or turn right into the road heading South which is why none of the roads are safe to cross for the pedestrians |
| Graphical user interface, application  Description automatically generated |
| **State 2** | In this state, because lights A, B and C are all red, the only flowing traffic is from the South road to the East road. This means those two roads are not safe to cross but the west road is safe to cross |
| Graphical user interface, application  Description automatically generated |
| **State 3** | In this one even though most of the lights are red, because the traffic from the east road can go straight or turn left, none of the roads are safe to cross |
| A picture containing graphical user interface  Description automatically generated |
| **State 4** | In the final state, all the traffic lights are off, making all the roads safe to cross |
| Graphical user interface, application  Description automatically generated |

In between each of these 4 states, the lights can turn amber or red & amber, to signify change and get the drivers ready to either stop or turn the hand break off. The table below shows the order of lights. If a light is changing from red to green then it will first turn red & amber for a few seconds. If a light is changing from green to red then it will turn amber first instead. If a light does not change colour from one state to the next then it will stay the same in the ‘in-between’ state as well.

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|  |  |  |  |

The full order of states is shown below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **STATE** | **A** | **B** | **C** | **D** |
| State 1 |  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  | | | | |
| In-between state 1-2 |  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  | | | | |
| State 2 |  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  | | | | |
| In-between state 2-3 |  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  | | | | |
| State 3 |  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  | | | | |
| In-between state 3-4 |  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  | | | | |
| State 4 |  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  | | | | |
| In-between state 4-1 |  |  |  |  |
|  |  |  |  |
|  |  |  |  |

# SDLC

# Requirements

# Designs

# Story Board

# Pseudocode



# Flowchart

# Comments from students

# Evaluate the design

# Test Log

# Implementation

# IDE

# Navigation

# Functionality

# Testing

# Evaluation